

Meeting the Challenge of Ecoregional Research

**An International Workshop on Organizing and Managing
Ecoregional Programs**

Wageningen, The Netherlands, 26-28 March 2001



This workshop was organized by the International Service for National Agricultural Research (ISNAR), in collaboration with the International Agricultural Center (IAC), Wageningen, The Netherlands. The organizers and participants would like to thank The Netherlands Ministry of Foreign Affairs for its financial support.

About ISNAR

The International Service for National Agricultural Research (ISNAR) assists developing countries in improving the performance of their national agricultural research systems and organizations. It does this by promoting appropriate agricultural research policies, sustainable research institutions, and improved research management. ISNAR's services to national research are ultimately intended to benefit producers and consumers in developing countries and to safeguard the natural environment for future generations.

To maximize the impact of its work in developing countries, ISNAR focuses on three objectives:

- enhancing the capacity of agricultural research organizations to respond to their clients' needs and to emerging challenges
- expanding global knowledge on agricultural research policy, organization, and management
- improving developing countries' access to knowledge on agricultural research policy, organization, and management

ISNAR is a non-profit autonomous institution, international in character and apolitical in its management, staffing, and operations. It is financially supported by a number of the members of the Consultative Group on International Agricultural Research (CGIAR), an informal group of donors that includes countries, development banks, international organizations, and foundations. Of the 16 centers in the CGIAR system of international centers, ISNAR is the only one that focuses specifically on institutional development within national agricultural research systems.

About IAC

The International Agricultural Centre (IAC) started as an independent non-profit foundation affiliated with the Ministry of Agriculture, Nature Management and Fisheries and is now being integrated into the Wageningen University and Research Centre. IAC is an internationally oriented institute that acts as a platform for exchange and transfer of applied knowledge on sustainable management of renewable natural resources. It provides training, advisory, and information management services directed towards developing countries and countries in transition.

The focus of IAC is directed towards:

- agriculture for food and nutrition security
- management of renewable natural resources
- integration of social and economic aspects in rural development processes

Full workshop papers and more information about ecoregional programs can be found at <http://www.wis.cgiar.org/isnar/index.htm>. A 4-page leaflet summarizing the key points to emerge from the workshop is also available.

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Foreword

Agricultural growth has to be achieved with methods that preserve the productivity of natural resources, without further damage to the Earth's precious life support systems - land, water, flora, and fauna - which are already under stress. Research is the means by which the world's knowledge of agriculture is increased and improved. Agricultural research, conducted to help the world's poorest people make lasting improvements in their lives, and in the lives of their children, is, therefore, critical to human progress. (CGIAR 2001)

Concepts and models of agricultural research have changed considerably since the 1960s, when the need to feed a rapidly growing global population stimulated the first significant increases in agricultural productivity. Originally, the emphasis was on commodity research, with efforts concentrated on areas of high potential where relatively controlled growing conditions could be maintained. As the world population continues to grow, further increases in productivity are required. However, increasing emphasis is now being placed on better management of natural resources and the sustainability of production. Farming systems research and participatory approaches have widened the scope of development-oriented research to include social sciences and 'bottom-up' or field-level involvement in decision-making. The recent CGIAR focus on integrated natural resource management (INRM) goes further towards incorporating multiple aspects of natural resource use into system management. This rapidly broadening research agenda has led to the formation of global system-wide programs, including Alternatives to Slash and Burn (ASB) and the System-wide Livestock Program (SLP) as well as ecoregional programs.

Ecoregional programs were first sanctioned by the CGIAR in 1994. They were intended to address development issues more effectively within geographically defined areas. The focus was on major agro-climatic zones with a homogeneous ecology where population pressure or natural resource constraints occurred. It was envisaged that geographically focused programs would widen and strengthen partnerships and streamline existing research efforts as well as attract regionally allocated funds. Now that several ecoregional programs have been in existence for a number of years, we are starting to see an interesting evolution. National agricultural research systems are becoming full partners and the institutional mix is changing, becoming broader as it includes additional stakeholders, such as universities, non-government organizations (NGOs) and the private sector. Projects that began with extensive site characterization are now moving into a more interventionist phase with greater attention being paid to policy concerns and direct interaction with policy makers. The projects have progressed from farm-level to municipal and governmental decision-making levels, and now have the potential to make a very great impact across large geographical regions.

It is very important that we now capitalize on our current knowledge in order to move forward. The workshop reported in this publication brought together an impressive range of opinions and experiences, from the programs themselves, from the NGO committee of the CGIAR, from ISNAR, which has previously supported and assessed their organization and management, and from IAC, which has experience in providing policy advice, in networking and in regional approaches to research and development. This report provides a useful summary of the lessons learned in organizing and managing ecoregional programs, and recommendations that will stimulate improvements in their implementation. The Netherlands Government has generously supported the concept of ecoregional research from the start, and we thank them for their contribution to this workshop. Needed now from all members of the donor community is further commitment to strengthen the programs and to increase awareness of their impact. Given that commitment, ecoregional research will play a valuable role in poverty eradication and environmental conservation throughout the developing world.

Stein W. Bie

Director General

International Service for National Agricultural Research (ISNAR)

Executive Summary

Agricultural research is increasingly being organized and managed at regional, supranational levels. Ecoregional programs were initiated by the CGIAR in the early 1990s in response to increasing concern over natural resource management and the need to broaden collaboration with national and regional partners in research and development. Several of them now come under the umbrella of the regional research fora established in the mid-1990s to improve research coordination priority setting. Although current ecoregional programs have experienced considerable success, there is still much to learn and improve. There has been little information exchange between the different programs, and awareness of their purpose and results remains low. This workshop was held in order to advance thinking and practice in organizing and managing ecoregional programs through sharing experiences, and thus to make recommendations for future action.

The workshop was organized by the International Service for National Agricultural Research (ISNAR) and the International Agricultural Center (IAC), in Wageningen, The Netherlands. Three studies were commissioned to provide background information on the current situation and to stimulate debate:

- An analytical description of the major ecoregional programs
- A meta-analysis of reviews and evaluations of ecoregional programs
- A survey of ecoregional program managers and stakeholders.

The workshop highlighted a general lack of awareness concerning the ecoregional approach. A new consensus on the purpose of ecoregional programs was therefore devised to communicate and promote the concept both within and outside the CGIAR.

Lessons learned

Workshop participants shared their knowledge to develop a list of the key functions and elements required for a successful ecoregional program. These were summarized under the following headings:

- Information and communication
- Planning
- Facilitation and management
- Monitoring and evaluation
- Policy dialog
- Partnerships and alliances
- Capacity building
- Funding and resource mobilization
- Implementation.

Ecoregional Programs: A Statement of Purpose

The purpose of ecoregional programs is to bring about lasting improvements in the lives and livelihoods of poor people. The programs are characterized by a focus on specific ecological and geopolitical regions and by a balanced emphasis on production, natural resource management and social equity. The technical and human dimensions of problems and opportunities are addressed through partnerships with farmer groups, national research organizations, NGOs, advanced research institutes, CGIAR centers, and the private sector.

Ecoregional programs support participatory technology development of a wide range of options and stimulate policy dialogue. They develop methods to promote research efficiency and to achieve broader impact through the extrapolation of results. They are vehicles for implementing the new INRM research and development approach promoted by the CGIAR.

Recommendations for the programs

1. Develop more efficient information and communication systems
2. Maintain coordination units to provide leadership, mobilize partners and resources and build capacity
3. Ensure programs are effectively monitored and evaluated, including impact assessment
4. Strengthen interactions with policy makers
5. Expand the stakeholder base
6. Develop new funding mechanisms and better marketing strategies.

Recommendations for the CGIAR

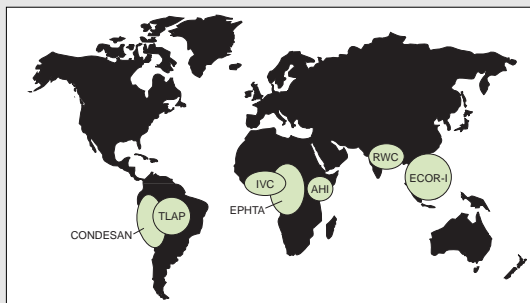
1. Center Directors were asked to strongly support the programs as an appropriate vehicle for implementing the new INRM approach. The need for adequate time to achieve demonstrable impact in this new area of research and development was stressed.
2. ISNAR and IAC were asked to support the development of new planning, monitoring and evaluation tools that are specifically tailored to the needs of ecoregional programs, and to facilitate the exchange of information and knowledge between programs and their partners.
3. Continued and enhanced investment to secure the core coordination and facilitation role of ecoregional programs was requested.

Background

Since the research of the 1960s that led to the “Green Revolution”, there have been significant achievements in increasing agricultural productivity to match the world’s growing population. However, poverty and natural resource degradation persist in many parts of the developing world. In an effort to address development problems more effectively, agricultural research is increasingly being organized and managed at the regional, supranational level. Since the 1990s, the Consultative Group on International Agricultural Research (CGIAR) has supported the establishment of a series of ecoregional programs. These are typically regional consortia, involving national agricultural research systems (NARS), international agricultural research centers (IARCs), advanced research institutes (ARIs), non-government organizations (NGOs), and local and national government agencies. Their aim is to resolve major development problems related to the sustainable and productive use of natural resources within an ecoregion. Several geographically focused ecoregional programs have now become established, seven of which were represented at the workshop.

Participating Ecoregional Programs

- Ecoregional Program for the Humid and Sub-humid Tropics of Sub-Saharan Africa (EPHTA), facilitated by the International Institute of Tropical Agriculture (IITA)
- Consortium for the Sustainable Use of Inland Valley Agro-ecosystems in Sub-Saharan Africa (IVC), facilitated by the West Africa Rice Development Association (WARDA)
- African Highlands Initiative for Eastern and Central Africa (AHI), facilitated by the International Centre for Research in Agroforestry (ICRAF)
- Tropical Latin America Program (TLAP), facilitated by the International Center for Tropical Agriculture (CIAT)
- Consortium for the Sustainable Development of the Andean Region (CONDESAN), facilitated by the International Potato Center (CIP)
- Rice-Wheat Consortium for the Indo-Gangetic Plains (RWC), facilitated by the International Center for the Improvement of Maize and Wheat (CIMMYT)
- Ecoregional Program for the Humid and Sub-humid Tropics of Asia (ECOR-I), facilitated by the International Rice Research Institute (IRRI).



Although substantial experience concerning the organization and management of ecoregional programs has now been accumulated, this knowledge has not been widely shared. This represents a missed opportunity, since the systematic exchange of information and experiences could help to strengthen existing programs and contribute to their better design and implementation in the future. It was felt that a workshop would provide a suitable environment in which to trigger such an exchange.

The general objective of the workshop was to advance thinking and practice in the organization and management of ecoregional programs carried out by, or in association with, the CGIAR centers. The specific objectives were:

- To identify strengths and weaknesses in the organization and management of existing ecoregional programs
- To draw lessons from past experience to improve the organization and management of programs in the future
- To provide inputs to ongoing discussions concerning future roles and activities of the CGIAR at the ecoregional level.

Participants included ecoregional program coordinators from the CGIAR centres, representatives from national agricultural research organizations, universities and NGOs, and others who work to promote development through ecoregional research.

Part 1. Preparatory Studies

Prior to the workshop, three studies were commissioned to provide background information on the current situation and to stimulate debate:

- Study 1: An analytical description of the major ecoregional programs
- Study 2: A meta-analysis of existing review and evaluation reports on ecoregional programs
- Study 3: A survey of ecoregional program managers and other stakeholders.

Analytical Description of Major Ecoregional Programs

Wim Andriess and Frans Neuman

Aims and methods

This report aims to provide background information and identify key issues concerning the organization and management of current ecoregional programs. It has been prepared using proposals, management reports, publications, component- and system-wide reviews, web sites and promotional materials made available by the programs themselves.

Background

Ecoregional programs were established by the CGIAR in the 1990s (Gryseels, 1992; TAC, 1991) along with global system-wide initiatives, as an appropriate response to a rapidly expanding research agenda. The main purpose was to strengthen partnerships between CGIAR centers and to foster contacts with other stakeholders, especially national and regional research organizations, government and development agencies, NGOs and the private sector. A common feature of all the ecoregional programs is their focus on sustainable agricultural development, natural resource management and poverty eradication within a geographically defined area, and a concerted mode of operation involving various partners. The programs address a complex interaction of biophysical, natural resources management, socioeconomic, institutional and policy issues.

Several factors have pointed to a need to review the organization and management of ecoregional programs. In 1999, the Technical Advisory Committee (TAC) of the CGIAR indicated the need to monitor their development and to allow systematic exchange of experiences among the programs and their stakeholders. The role of the CGIAR centers is

changing, as NARS and NGOs assume more responsibility for research, including that on ecoregional issues. The organization of agricultural research at regional levels and the emergence of regional umbrella organizations such as the Conference for Responsible African Agricultural Research (CORAF) and the Association for Strengthening Agricultural Research in East and Central Africa (ASARECA) mean that new planning and funding mechanisms are required. Organization and management are especially critical where research is conducted in a regional context. It was felt that the lessons learned from existing ecoregional programs could provide valuable input to the debate on this subject.

Comparative analysis of the ecoregional programs

Goals and objectives

Most ecoregional programs were established by a CGIAR initiative, hence it was logical that CGIAR centers assumed convening roles in establishing the consortia and hosting the facilitation units. However, in Latin America, CONDESAN had already established close collaboration with many regional partners. Likewise, RWC in South Asia and IVC in West Africa built on existing networks.

Nearly all ecoregional programs share the overall goal of creating lasting regional partnerships in which integrated natural resource management plays a key role. However, CIAT, in its Tropical Latin America Program (TLAP), has developed a different view, with the program's main goal being to diffuse its research results to and receive feedback from intermediate or end-users.

As research environments differ, so do the specific goals, objectives, and research focuses of the programs. Nevertheless, the different physical environments have certain major features in common, including increasing population pressure and degradation of the natural resource base.

Partnerships

Many different partnerships have been established, involving a wide range of institutions, including IARCs, NARS, NGOs, universities, international development organizations, agricultural extension agencies, farmer groups, and the private sector. Regional umbrella organizations play an important part in some programs (e.g. ASARECA in AHI), but not others. Advanced research institutions from the North are important in RWC, IVC and CONDESAN. Partnerships with NGOs are generally weak; the roles and impact of the NGOs appear to be mostly limited to the lower levels of the programs, e.g. benchmark site level. Involvement of local governments and the private sector is also limited. Latin America is the exception, where NGOs, local government organizations, and the private sector are actively involved in CONDESAN and, to a lesser extent, in TLAP.

Structure, governance and facilitation

The ecoregional programs have a similar organizational set-up. Most have steering committees, which are responsible for major decision-making, beneath which a facilitation or coordination unit manages the day-to-day and practical issues facing the program. Most facilitators (generally one or two people per program) are scientists from the host

center, but in many cases a representative of the participating NARS also assumes a co-coordinators' role. At the base of the organizational pyramids are the national or site coordination units, which insure the involvement of NGOs, farmer groups, and local government organizations.

Focus of activities

The research agendas of the ecoregional programs focus mostly on production issues, but they are broadening to include environmental issues, concerning the safeguarding of natural environments as well as those associated with primary production. The programs' specific focuses differ with the different physical environments in which they operate. Water management, for example, is a prominent issue in the Indo-Gangetic plains and in the inland valleys, land degradation (soil erosion) is important in the Andean and African highlands, and nutrient mining is important on the poor soils of West and Central Africa and in the intensive cultivation systems of the East African highlands.

However, important issues such as post-harvest losses, product processing, marketing, nutrition, and food safety are not yet generally addressed in a structured way. For example, only one program (EPHTA) is involved in post-harvest issues. These omissions relate to the fact that the "human dimension" or social component of research is weak in most programs, as is the case in most international and national agricultural research systems.

The non-participation of the International Food Policy Research Institute (IFPRI) in the ecoregional programs is reflected in the virtual non-existence of a policy dimension in the research approaches. As a result, few, if any, programs have developed long-term scenarios of integrated rural development based on different policy options.

Funding

Funding mechanisms and the financial situation of the programs are not at all clear, with very little detail made available. Relative budget allocations for facilitation, communication and meetings, research activities, training, publication and dissemination, and overheads of host institutions are not generated. The facilitation units (mostly consisting of international staff) appear to be costly in relation to total program budgets and their continuation is a recurrent issue of debate. Depending on the policy of the host institution, the programs may or may not solicit additional funds. Within CONDESAN, national coordination units have the authority to do this and, reportedly, they are successful. Most programs have small grants facilities with which research activities in key or benchmark sites can be financed.

Key achievements and outputs

Apart from tangible outputs such as research papers, workshop proceedings, and annual reports, the achievements and impact of the programs are difficult to assess. This applies to productivity and sustainability gains as well as to institutional change. For example, the synergies obtained through joint research planning are a definite gain, though one that is extremely difficult to quantify. Likewise, the exchange of ideas, data, results, and technologies within an ecoregion, even under difficult political conditions (e.g. between India and Pakistan in the RWC) is a major achievement, and again one that is virtually unquantifiable. The development of networks, whether of institutions or of individuals,

is another benefit. More efficient research planning is an achievement that deserves greater recognition from donors.

Information dissemination

The extent to which the ecoregional programs have been able to disseminate information effectively differs strongly. Traditional vehicles, such as newsletters, glossy folders, and other publications, are a general practice, but little is known about their impact, particularly in the farming community. Most programs have their own internet web pages, but mostly these offer only a one-way line of communication. InfoAndina, the electronic forum developed by CONDESAN, was one of the first to offer two-way communication as well as access to general information about the program. The RWC developed the PRISM web-based management information system to enhance the exchange of information on organizations, projects, and experts in its region. TLAP has put much emphasis on GIS and other database collections for use by third parties.

Issues for discussion

A summary of the issues raised by this study:

AHI

Is a thematic approach fragmenting the research effort? Have AHI and ASB (the Alternatives to Slash and Burn Program) “taken over” the ICRAF research agenda? What will the continuing role of ASARECA be, particularly in relation to the roles of participating CGIAR centers? How does the overriding problem of soil depletion affect the different areas under study and how will different solutions be found to suit different areas (up-scaling and out-scaling)?

EPHTA

EPHTA’s convening center (IITA) is under continuing financial strain, and so is the program. This effectively undermines the facilitators’ roles. How is the program going to deal with this? Are there plans to involve NARS more in benchmark area activities? Is the need to build capacity around the pilot sites being addressed? Traditionally, IITA has weak social science capacity - how does the program see this developing? CORAF is an important funding organization for the program; how can the interaction between anglophone NARS and CORAF, which has francophone origins, be improved? Are there or could there be strong potential synergies between ASB, IVC, the Humid Forest Consortium, and the Moist Savanna Consortium? With six benchmark sites in 14 countries, are scarce resources being stretched too thin?

IVC

Has IVC’s recent absorption into one of WARDA’s core programs affected the efficiency and quality of its work? Has IVC spent too much effort on agro-ecological characterization? Can IVC, in selecting its benchmark areas, seek overlap with EPHTA benchmark sites? What role is left for IVC’s 18 key sites once the benchmark activities are in place? What role can CORAF play in IVC? How can the involvement of NGOs and farmer organizations

be strengthened? How is IVC's lack of a policy dialog being addressed?

CONDESAN

CONDESAN stands out as a strong player among the ecoregional programs. What are the significant differences between it and the other programs, in particular the African programs? What are the advantages and disadvantages of having so many different institutions involved? Are the technical support skills too centralized (in Lima), and too isolated from the sites? Does CONDESAN play a part in the planning and budgetary processes of the various funding institutions? Does it need to play a greater role, in order to maintain coherent site programs?



TLAP

Given its self-defined role, which differs from the objectives of the other programs, is TLAP really an ecoregional program? On the other hand, given the substantial results obtained in terms of technological advances, decision support tool-kits, exchange of new technologies (e.g. GIS systems) and partnerships, does the answer to the first question matter?

RWC

Is the large number of sites (12) too ambitious, and is funding too thinly spread over these sites to allow the program to address major research issues in sufficient depth? Has division of the research effort into four key themes led to fragmentation? Is too much being expected of the facilitation unit in terms of developing strategy and concepts? How does the program deal with a large national agricultural research institute in terms of obtaining coherent planning and teamwork?

ECORI

Are some common themes being pursued across the same countries by different organizations? Could greater integration occur between the international and national research systems? Is the role of ARIs in methodology development too strong? Is IRRI expecting too much from national site facilities? Could the consortium approach be used to greater effect in this program? Are there plans to increase social science capacity at IRRI to support the ecoregional approach?

Meta-analysis of Reviews and Evaluations of Ecoregional Programs

Julio A. Berdegue and Germán Escobar

Aim, method and organization of the analysis

The aim of this report is to summarize the main lessons related to the organization and management of ecoregional programs arising from reviews and evaluations of these programs. The report is based on a desk study of the following types of documents: multi-program reviews of ecoregional initiatives, reviews and evaluations carried out or commissioned by the CGIAR centers (or the programs themselves), reports of workshops or other meetings on ecoregional programs, and reviews and evaluations commissioned by the Ecoregional Fund to Support Methodological Initiatives. We also had access to some complementary documents, such as reports of meetings, and to information on the web pages of the programs or the centers that lead them¹.

During our study, it became clear that most of the reviews and evaluations coincided in identifying a few key strengths and weaknesses common to ecoregional programs. We therefore decided to conduct our analysis by asking what could be done to respond to these through organization and management. Since, however, organization and management make sense only if related to strategies and objectives, it was necessary to identify a reference point for these first.

One candidate for such a reference point was “the ecoregional approach” as defined by the programs themselves. However, under this heading we found considerable differences in strategy and objectives between programs. The second candidate, which is the one we selected, was the new CGIAR “vision and strategy” (TAC, 2000). We assumed that, in the future, the ecoregional programs implemented or led by CGIAR centers would need to respond to this.

During our study we did *not* have an opportunity to visit any of the ecoregional programs; this is a serious limitation that the reader should keep in mind. Moreover, neither of the authors has worked within the CGIAR system², and therefore ours is an outsider’s view with all the advantages and disadvantages of that perspective.

Major challenges facing ecoregional initiatives

Our analysis of the reviews and evaluations available to us suggests three major challenges facing the ecoregional programs: (a) delivery of NRM research outputs that will make a

1 In the case of IVC, their review report dates back to 1996, and changes have been implemented since. EPHTA preferred not to provide any documentation for this analysis, so we do not know if any of our results apply to this program.

2 However, the senior author of this report participated in 1999 and 2000 in a review of CIP’s NRM program (to which CONDESAN is related), and in the evaluations of methodological research projects implemented by CIAT and CIP within the overall framework of their ecoregional programs.

real impact on program objectives, (b) integration of biophysical and socioeconomic and policy research, and (c) design and management of effective partnerships.

Delivery of NRM research products

The CGIAR system adopted an ecoregional approach because it needed to link the goals of improving natural resource management and increasing agricultural production and productivity. Ecoregional programs were supposed to work at the intersection of these two issues. More recently, the CGIAR (TAC, 2000) has emphasized poverty reduction as the central element of its goal and mission, and has made an explicit link between that new emphasis and regional approaches to research. In the new CGIAR strategy, regional approaches are justified in terms of their potential to help address the causes of poverty and food insecurity.

This fits with the most important of the recommendations of the system-wide review of ecoregional programs, that “the CGIAR and its members adopt a revised framework for NRM research comprising three elements: (a) research should be organized around major problems or opportunities of international relevance, (b) it should use holistic system approaches that combine the human and technical elements to address the problems on multiple scales, and (c) it should provide for its progress to be measured against specific performance indicators” (TAC, 1999; page xxii).

In addition, the same CGIAR policy document defines five strategic choices for the CGIAR’s research agenda, at least two of which are directly relevant to ecoregional initiatives (TAC, 2000): sustainable production systems through integrated natural resource management, and socioeconomic and policy research.

How well prepared are the ecoregional programs to follow this strategy? The following are some conclusions reached by the reviews and evaluations to which we had access:

- Ecoregional research has tended to over-emphasize characterization of agroecoregions and the development of new methods and tools, at the expense of focusing on strategic problems and opportunities and delivering scientific and technological results³
- The “human dimension” (i.e. socioeconomic and policy research) is underrepresented in the research programs of the ecoregional initiatives, to the extent that several of them are almost exclusively dedicated to working on biophysical issues⁴
- The programs are designed with a clear focus on well-defined NRM problems and opportunities of international significance, related to sustainable agricultural production, food security, and poverty alleviation
- Effective partnerships are in place, involving international and national research and development organizations
- The programs include appropriate and explicit strategies for ensuring application of research results.

3 Workshop participants stressed that characterization of sites is very important in order to lay the foundations for effective scaling up and scaling out of research methods and tools. In addition, the novel research methods evolving from the ecoregional programs are important advances in themselves.

4 During the workshop, it was noted that few reviews and evaluations are completely up-to-date. Early work by the programs, by necessity, concentrated on biophysical issues, while recent work has concentrated more on socioeconomic and policy research.

Another important condition that would facilitate impact is the ability to extrapolate results. Yet there are few clear-cut success stories in this area. Part of the problem is that benchmark sites have sometimes been selected using poorly defined criteria⁵. An added difficulty is that the methods and tools used to support extrapolation tend to be quite demanding of scientific knowledge, technical skills, and sophisticated institutional environments.

Integration of biophysical, socioeconomic, and policy research

A fundamental characteristic of the ecoregional approach is that it should integrate biophysical and socioeconomic and policy research. In fact, in TAC's original formulation, the "regional" part of the "ecoregional" concept was intended to represent the socioeconomic and institutional dimensions associated with geopolitical areas (TAC, 1999; Kürschner, 1999).

Yet many reviews, including that of TAC (1999), conclude that the policy and socioeconomic dimensions of most ecoregional programs need considerable strengthening. Continuing weaknesses in this area will severely undermine the programs' impacts.

Partnerships

Most of the reviews conclude that partnership building has been the strong point of the ecoregional programs. The formula of ecoregional research consortia has no doubt resulted in a much larger, broader, and deeper involvement of non-CGIAR organizations in the activities promoted by CGIAR centers.

There is some evidence in the reviews and evaluations to suggest that partnerships that developed before the ecoregional programs were launched tend to perform better than those that formed for the explicit purpose of obtaining funding for such a program. While we do not have enough evidence to reach a definitive conclusion, the RWC, IVC, and CONDESAN cases do suggest that strong partnerships are the product of relatively long processes of institutional experimentation and trust building.

Most reviews emphasize the high transaction costs of consortia-based ecoregional research. These costs are probably inherent in all collaborative research endeavors, especially when they involve a broad range of partners, who may have different interests and may respond to different sets of incentives.

Lastly, the whole CGIAR system has recently had difficulties in defining its policies and in taking decisions about its organization, governance, and management. This uncertain institutional context has inevitably affected the ecoregional programs.

Management and organizational options

Governance

In most cases, ecoregional programs are governed through a system of steering committees and of coordination or facilitation units, often operating at different levels (consortia,

⁵ Practical criteria, such as existing infrastructure or partnerships, are often considered just as important as technical criteria in selecting benchmark sites.

countries, benchmark sites, etc). The major achievement of this approach has been to bring on board a large number of different partners, all of whom are involved to some degree in decision-making.

These different partners bring different capacities to a consortium, but current governance arrangements are often organized on the false assumption of equality of contributions. The governance systems of ecoregional programs need to establish clear criteria, procedures, and bodies, to take care of what should be four distinct stages in decision-making: consultation, decision-making (about priorities and objectives and the resources allocated to them), follow-up by management, and monitoring and evaluation of the results. Different partners in ecoregional consortia should play different roles at each of these stages, with well-defined rights and duties, and with procedures and criteria to ensure accountability.

Planning and priority setting

The key question with respect to planning and priority setting is how to ensure that ecoregional programs focus on major problems and opportunities. Three principles can be discerned.

First, prioritization should follow clear criteria: (a) the importance of the NRM research problem in terms of sustainable increases in agricultural productivity, food security, poverty alleviation, and environmental protection, (b) the likelihood that an investment in strategic research will produce solutions to the problem, taking into account national research capacities, (c) the potential for producing international public goods with wide spillovers across national boundaries, (d) the potential for applied R&D to have an impact in the short to medium term. Second, a strong socio-economic and policy research component is needed to ensure adherence to these criteria. The work of this component needs to be closely integrated with that on biophysical problems. This implies a careful review of the institutions and disciplines represented in the planning process and in program implementation. Third, clear and frank application of the criteria in the planning and priority setting procedure probably requires that it be open to the participation of stakeholders outside those who are permanent partners in the program. Outsiders may be in a better position to ask the hard questions about relevance and potential impacts.

Monitoring and evaluation

All the major reviews agree that ecoregional initiatives often lack an effective monitoring and evaluation system. As stated by the TAC system-wide review (TAC, 1999; p. 23), “most programs spend considerable resources and time in characterization and planning, less in monitoring, and practically none in evaluation.”

Hence our recommendation here is straightforward: ecoregional programs should establish monitoring and evaluation systems that meet the standards applied to the rest of the CGIAR. This includes establishing indicators that measure progress towards objectives⁶.

⁶ It was noted during the workshop that new methods of monitoring and evaluation need to be developed to assess the complexity of results and impact of ecoregional programs (see Lessons Learned, p. 35).

Specifically:

- All External Program and Management Reviews of CGIAR centers that lead ecoregional programs should include specific sections reviewing such programs
- Lead centers should consider organizing Internally Commissioned External Reviews of their ecoregional programs. This is especially important for those centers whose ecoregional programs have not been reviewed for more than five years
- TAC should provide a set of guidelines for the review of complex, multi-actor programs in which CGIAR centers have a major stake.

Funding

There are two separate issues concerning the funding of ecoregional programs: (a) the amount and continuity of funding, and (b) transparency and accountability in financial management.

All the reviews agree that the amounts and continuity of funding for ecoregional programs have been way below initial expectations. We are not aware of any signs that this will change in the foreseeable future. The shortage of funds reflects the overall financial situation of the CGIAR. However, some reviews also observe that the programs' lack of clear objectives and systems for assessing impact have not helped.

The consequences of the funding shortfall are aggravated by the fact that the ecoregional consortia have often not adjusted their operations accordingly. They have maintained the same goals, number of benchmark sites, number of projects, and so on. One effect is that the share of financial resources going to the coordination units sometimes appears disproportionate to the funding going to field-level operations.

Equally worrisome is that many reviews and evaluations have been unable to understand or even describe how funds flow, who contributes and gets what, or even which resources belong to the ecoregional initiative as opposed to other projects and programs of the convening centers. This leads to inefficiency, complicates the monitoring and evaluation of costs and benefits, and probably discourages donors from making greater commitments. It is also a frequently mentioned source of friction among participants in the consortia, and in particular between the center and national programs.

The TAC system-wide review (TAC, 1999) mentions competitive grant funds as a funding mechanism that could be used more frequently by ecoregional programs. A well-designed and managed competitive fund requires that clear criteria of eligibility and merit be established to guide the allocation of resources. These need to be derived from the program's objectives. Competitive funds lead to project-based, performance-oriented contracts of a kind that could be highly conducive to greater impact. They could also allow the participation of a broader range of R&D organizations in the activities of the consortia, without having to incorporate everyone as a permanent member. And they could facilitate the task-specific participation of peer reviewers external to the consortium, both during the selection of projects and during their monitoring and evaluation.

Division of tasks

A recurrent problem for many ecoregional programs is confusion in the contributions to be made by each partner, as well as in responsibilities and the allocation of funds to carry them out. There is little doubt that a significant part of the problem of high

transaction costs has to do with this lack of clarity. Once again, a system of project-based contracts between the consortia and ad-hoc task forces would go a long way in helping to solve this problem.

One issue that merits special attention is the role of the CGIAR centers. The system-wide review (TAC, 1999) argues that there are no clear reasons why the role of convener should remain the exclusive responsibility of the centers. The continued evolution and strengthening of the ecoregional consortia may require a well-planned process of “devolution” of responsibilities, so that the center becomes just one more partner in the system.

Integration

In our terms of reference, the issue of integration involves two separate questions: integration of upstream (strategic research) and downstream (applied R&D) objectives, and integration of disciplines.

Integration of upstream and downstream objectives should follow from the revised conceptual framework for ecoregional research proposed by the system-wide review (TAC, 1999). This stated that ecoregional research should be organized around major problems and opportunities that are of national or international relevance and that can be defined from the perspectives of food security, sustainable agricultural production and/or poverty eradication. The involvement of new partners, such as NGOs and private companies, in all aspects of ecoregional programs is seen as vital. We believe that if this is taken care of, the second dimension of integration (multidisciplinarity) will follow. It may be that this integration is not yet happening today to the extent that it should, despite advances in multidisciplinarity in the CGIAR centers. Some ecoregional programs do not include enough researchers and other stakeholders with the interest, the perspective, and the expertise to pursue “the human dimension”. Competitive funds are likely to be a good mechanism for ensuring the integration of upstream and downstream objectives.

Utilization of results

To improve the utilization of results of ecoregional research, it is essential that such research be results-oriented! However, many applied R&D organizations in developing countries face significant internal weaknesses or operate in a socioeconomic or policy environment that constrains their ability to take advantage of research results. Ecoregional programs could take two approaches to improving the utilization of results. Firstly, they could seek to implement the new elements in the CGIAR vision and strategy, especially the greater involvement of applied R&D organizations. Secondly, they could invest more in developing the capacities of national and local partners.

Communication

Communication is almost always rated poorly in the reviews and evaluations. Some programs do not publish their results in international peer-reviewed journals. Another problem is that there is sometimes little or no communication between staff of different ecoregional programs who are working on the same or similar projects. Most importantly, with the exception of a few programs, there appears to be little communication or systematic dialog with decision-makers who hold the keys to the large-scale dissemination of research results.

Improving communication will require that specific staff and financial resources be devoted to this task, as it is unrealistic to expect researchers to have the time and skills to do it.

Conclusions and recommendations

The three main conclusions of the existing reviews and evaluations of ecoregional programs are that:

1. Ecoregional programs have made major advances in improving interaction and networking between national programs and CGIAR centers. This is a major contribution to the agricultural knowledge and information systems of the regions where it has occurred.
2. Few ecoregional programs have yet documented convincing evidence of impact. It is possible that some programs have placed too much emphasis on characterization, necessary though this is in the early stages of research.
3. Most programs could go further in integrating the biophysical and social sciences. Research on socio-economic and policy issues remains weak in nearly all programs.

The following are some recommendations that flow from our own analysis:

- Each ecoregional program should issue a formal statement of its goals. This will improve the programs' ability to focus on major NRM research problems and opportunities and to generate relevant scientific and technological results
- Each program should also commit itself to improving the integration of biophysical research with socioeconomic and policy research
- TAC should commission an in-depth study on the strategies and methods that are most effective in building and sustaining ecoregional consortia
- ISNAR should develop guidelines for improving the integration of upstream and downstream objectives in research planning and priority setting. Such guidelines should consider the key question of how to bring in new applied R&D partners
- The CGIAR should issue guidelines to improve transparency, accountability, effectiveness, and efficiency in the allocation of responsibilities and resources in ecoregional consortia. In developing these guidelines, the CGIAR should consider new institutions and funding mechanisms, including project-based contract systems, ad-hoc task forces and competitive funds
- Each program should put in place a formal monitoring and evaluation system. TAC should assist the programs by issuing guidelines on monitoring and evaluation in ecoregional consortia
- Ecoregional programs that have not been reviewed for several years should urgently organize a formal review and evaluation process
- All programs should take urgently needed steps to improve the communication of their results.



Organizing and Managing Ecoregional Programs: Results of a Survey

Douglas Horton, Gigi Manicad and Petra Schlooz

Objective

This survey aimed to document the views of practitioners of ecoregional programs on various issues of program organization and management. It was prepared to gather information and to stimulate discussion at the workshop.

Methodology

The survey addressed five topics:

1. Factors that have facilitated the development of ecoregional programs
2. Strengths or positive aspects of the organization and management of ecoregional programs
3. Weaknesses or constraints to the organization and management of ecoregional programs
4. Priorities for improving the organization and management of existing ecoregional programs
5. Suggestions for improving the role of the CGIAR in the organization and management of future ecoregional programs.

A survey form consisting of five open-ended questions was sent by e-mail to 37 individuals. Completed surveys were received from 11 staff members of CGIAR centers facilitating ecoregional programs, 7 members of national organizations, 3 evaluators and 1 donor.

The responses to the survey relate to 11 groups of issues:

Issue	Total number of responses*
1. Leadership	11
2. Management units and structures	24
3. Commitment and ownership	9
4. Planning and priorities	14
5. Implementation and follow-up	23
6. Funding, resources, and costs	45
7. Participation, roles, and relationships	48
8. Integration of disciplines and efforts	19
9. Communication and coordination	39
10. Ecoregional concepts and approaches	26
11. Capacity and capacity building	19
Others**	14
Total	291

* Some respondents identified more than one issue in their answers

** Mainly technical issues, such as extrapolation and site selection

Results

Factors facilitating the development of ecoregional programs

CGIAR staff members highlighted two closely related issues: participation, roles, and relationships (e.g. participation of stakeholders in program development and implementation); and commitment and ownership. For instance, according to the RWC: “... (this) ecoregional program has performed well because of strong commitment among NARS’ agricultural research managers at the highest levels. Their personal participation in the Regional Steering Committee is a big part of this – (it) fosters ownership at the highest levels.”

For the national organizations, funding (e.g. availability of funds, pooling of resources) was most important. Participation, roles, and relationships were also of importance. One respondent said: “Collaboration with different institutes/organizations working in similar fields and environments has facilitated the development of the ecoregional program(s). This has promoted sharing of experience/expertise and resources, and reduced waste of resources involved in duplication of work.”

However, evaluators cited leadership as the most important factor. Leadership was also considered to be important by the CGIAR centers, national organizations, and facilitating units.

Positive aspects of the organization and management of ecoregional programs

Participation was rated highly, especially among the CGIAR centers (e.g. NARS as equal partners, consultation with stakeholders). One respondent from CIMMYT noted that partnership is “not perfect but it is not (an) IARC telling them what they will do. The actual research and outputs belong to NARS. The IARCs act as catalysts.”

The CGIAR centers felt that management structures and characteristics were important strengths (e.g. facilitation units, active involvement of the convening centers, full-time coordinator). The establishment of communication and coordination mechanisms was also cited as a benefit. However, the national organizations identified implementation, monitoring, and evaluation (e.g. tools and methods, work at project sites) and integration (research, development, and policy) as the main strengths.

Weaknesses in the organization and management of ecoregional programs

Funding was rated as the main weakness by the CGIAR centers (e.g. restricted level, lack of secure long-term funding, ambiguous responsibilities in fund-raising and distribution) but not by the NARS, who actually rated funding as a strength. This may be explained by the fact that while availability of funding facilitated the development of the ecoregional programs, in the course of implementation, for many programs, the actual amount of funding has been much less than was originally expected. Participation, roles, and relationships were cited as a major weakness by both the CGIAR centers and NARS. Although participation was felt by the CGIAR centers to be a facilitating factor and a strength, there has been confusion within CGIAR centers and among partners and stakeholders concerning the definition of roles and responsibilities for ecoregional programs. For the NARS, the dominant role of the CGIAR centers and the top-down approach were problematic. One national partner expressed concern over the “...absolute dominance by the international center in decisions made by the Consortium.”

Respondents, especially from the CGIAR centers, mentioned the issue of integration as a weakness, particularly the limited input of social sciences, natural resource management disciplines, economics, and policy analysis in the ecoregional programs. They noted that it was difficult for many different organizations to work together to implement a truly integrated program. Weakness in communication and coordination (e.g. limited facilities, lack of publication of results) has also contributed to the lack of exchange of research tools and methods, and the lack of standardization in their development and application. Confusion surrounding the meaning and objectives of ecoregional approaches was another weakness.

Priorities for improving the organization and management of existing programs

For both CGIAR centers and national programs, better communication and coordination (within the ecoregional programs and other networks, harmonization of tools, methodologies, and information systems) were cited as the priority for improving the ecoregional programs.

In addition, more aggressive fund-raising, broadening the sources of funding, and securing more stable, long-term funding were viewed as necessary for sustaining the programs, especially their facilitation units.

Improvement in participation was also important for the CGIAR (e.g. some felt there was a need to clarify the roles of convening centers in the areas of governance, technical work and administration) and for NARS (e.g. some felt there was a need to clarify roles between the CGIAR centers and NARS on who primarily convenes and manages ecoregional programs). One national partner remarked that “The present practice of making the CGIAR institute directly responsible for the ecoregional programs deviates from the initial concept of collective responsibility. Some of us in NARS feel strongly that the question of how the programs are managed needs to be reviewed.”

Suggestions for improving the role of the CGIAR

Respondents from the CGIAR centers identified two main areas for improvement: the ecoregional approach itself and funding. A clearer vision and direction is needed and the CGIAR needs to clarify its level of commitment. Some feel the CGIAR is shifting its focus from ecoregional programs to INRM to improve its operations. As one respondent stated, “INRM fits more closely to centers’ current mode of action: more reductionist (less focus on broadening the tent of disciplines); more center leadership (less focus on working with NGOs and strengthening national agencies); more focus on international public goods (less focus on regional public goods).”

National organizations made few suggestions. Those who did referred to better definition of the relationship between the CGIAR centers, NARS, and program beneficiaries, so as to democratize decision-making and increase the role of NARS in the programs.

Issues for discussion

Participation, roles, and relationships

While a major strength of the programs is the partnerships that have been built, such partnerships are far from perfect. This issue is highlighted most by the many questions

and comments regarding the relationships between international centers and national organizations. Many of the national respondents questioned the dominant role of the CGIAR centers. On the other hand, the respondents from international centers are divided on this issue. Some share the view that the CGIAR center should operate as one of the major partners of the ecoregional programs, as opposed to being the central player. Others assume that the centers have the mandate to convene ecoregional programs. This issue needs to be discussed at two levels: firstly, among the individual centers and within the CGIAR, and secondly between the CGIAR centers and the NARS.

Funding, costs and resources

Many respondents found great value in the pooling of resources to address regional problems. However, the lack of commitment to long-term funding remains a major challenge. The need to diversify funding sources was mentioned several times. Perhaps there is also a need to diversify the organizations that seek funding for ecoregional programs. Whenever possible, NARS and other regional networks should participate in fund-raising. Some NARS and regional networks may actually be in a stronger position to raise funds than some CGIAR centers.

Communication and coordination

Both the international centers and national organizations identified communication and coordination as the most important priority for improving the organization and management of ecoregional programs. This issue relates both to institutional coordination and to the harmonization of methods.

The ecoregional approach, concepts, and paradigms

The inadequate definition of the ecoregional approach hampers the development of ecoregional programs. This is reflected in the lack of integration among disciplines, particularly the social sciences, and the lack of integration between research and development. Moreover, the respondents were divided over how INRM relates to ecoregional programs. The ambiguity of concepts has an effect on the way the programs function and how partnerships are defined and operate. This may also affect implementation and follow-up. For instance, the issue of “use of results” was hardly mentioned by respondents. A review of the concept of the ecoregional approach is recommended. This should be based on the experiences gained by the programs to date.

Conclusions

CGIAR staff members, national researchers, and evaluators seem to have different views of the factors that have facilitated the development of ecoregional programs. While CGIAR respondents emphasized the importance of participation and commitment, respondents from national organizations stressed the value of funding and the resources made available. Respondents from the CGIAR and national organizations agreed that expanded participation is the key strength of ecoregional programs. CGIAR staff members considered inadequate participation to be the major weakness. In contrast, national scientists emphasized weak relationships and communication among partners.

Both the centers and national organizations identified communication and coordination as a key area for improvement. CGIAR staff members felt the need for the CGIAR leadership to clarify its position on the ecoregional approach and to improve the funding for ecoregional programs. Members of national organizations felt the need to improve relationships among individuals and organizations participating in ecoregional programs.

Some NGO Views on Ecoregional Programs

Ann Waters-Bayer, NGO Committee of the CGIAR

NGOs strongly support the principles behind ecoregional programs and can play an important role in encouraging local capacity building, providing extension services, and stimulating farmer experimentation. Involvement in current ecoregional programs has provided them with networking opportunities and access to information and ideas. However, the disparity of funding between NGOs and ecoregional programs constrains the formation of equal partnerships. Many NGOs perceive their role to be unclear, with many “ecoregional” activities being simply a continuation of the CGIAR center’s commodity research, accompanied by high transaction costs and a lack of donor support. They also perceive a disproportionate emphasis on describing benchmark sites in biophysical terms (with little stress on social, political, and institutional aspects) and a lack of genuine partnership building with other stakeholders. Many NGOs fear that center scientists will continue to dominate the ecoregional programs and follow their own agenda, while the NGOs are not accepted as real partners in the research process. This may explain why the programs are having difficulty in securing long-term donor support.

NGO recommendations:

- Base ecoregions on politico-administrative regions so as to facilitate alliances in the policy and institutional aspects of development-oriented research
- Increase the social science input, including training technical scientists in communication techniques and interdisciplinary teamwork
- Focus on R&D methods in NRM research that can be applied by NGOs and NARS with limited equipment and financial resources
- Create more opportunities for NGOs to share information and experiences with other partners
- Within jointly designed ecoregional programs, create competitive grant schemes for specific research projects, open to NARS, universities, and NGOs with track records in development-oriented research
- Involve NGOs and small farmer organizations (SFOs) in ecoregional program steering groups and in monitoring and evaluating outputs
- NGOs and SFOs must obtain external funds to allow them to make strong inputs into regional priority setting and into designing and implementing ecoregional programs.

And a warning...

The ecoregional programs were set up for similar reasons to those given for global challenge programs and a significant part of CGIAR funds (39%) were to be channeled to ecoregional programs. Ten years later, only 6% of CGIAR funds go to ecoregional programs and system-wide programs together. If donors don’t commit themselves to providing funds—including funds to build up multi-stakeholder consortia with strong NGO and SFO involvement—the global challenge programs will face the same problems as the ecoregional programs.

Part 2. Results of the Workshop

During the workshop, participants discussed a wide range of issues, including the concept of ecoregional research, and shared their experience of ecoregional programs. They also made recommendations for future action.

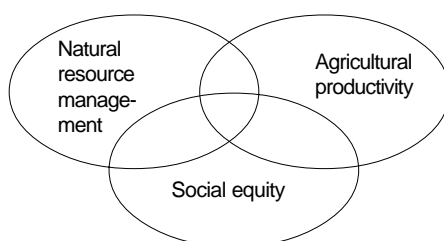
What is Ecoregional Research?

When ecoregional research was first conceived by the CGIAR in the early 1990s, it was defined as research that “addresses problems of natural resource management and sustaining food production that are of importance across a broad region, defined in agroecological and socioeconomic terms” (ISNAR, 2001). At that time, much research on natural resource management tended to be site-specific, with little attention paid to generalization over a wide area. Ecoregional research was required to develop methodologies, as opposed to particular solutions, that could be applied to problem solving across regional and national boundaries. Identifying the boundaries relevant to particular problems, and the physical, social, and political variables that also define them, was seen as a key part of the research process.

Ecoregional programs

Ecoregional programs aim to achieve a balance between better natural resource management, increased agricultural productivity, and greater social equity in research for development (Figure 1). The focus is on people, agricultural systems, and decision-

Figure 1: Components of ecoregional programs



makers at various levels within geographical regions that are defined in both biophysical and socioeconomic terms.

Ecoregional programs and INRM

There is currently a major initiative in INRM within the international research community. The core ideas of both ecoregional programs and INRM are based on the principles that underpinned, and evolved through, farming systems research, i.e. the need to move from research based on commodities to research based on systems, and the need to integrate the social and biophysical aspects of research. However, ecoregional programs and INRM have moved beyond farming systems research to include attention to wider resources and higher levels of decision-making. The main principles in INRM are the same as those in the ecoregional approach; the fundamental difference is that, in ecoregional programs, the ecoregions set the context for the INRM issues. INRM is therefore a central and valuable component of ecoregional programs and, given their holistic focus, the ecoregional programs are effective vehicles for carrying out INRM. On a practical level, the fact that ecoregional programs are focused on geographic regions with relatively similar characteristics provides “added value”. This can improve research efficiency by targeting resources to solve similar problems in a holistic way, as well as providing a strong base for the scaling up and scaling out of both methods and technology.

The use of different terms to describe similar research approaches leads to a real danger of competition, to say nothing of the confusion caused in the minds of outsiders. CGIAR centers and/or donors may choose to invest in new INRM programs rather than support existing ecoregional programs. However, a key recognition of a recent INRM workshop (CGIAR, 2000) was that researchers have to get directly involved with the wider picture of INRM, and not just to be involved with individual studies. INRM initiatives should therefore be implemented within the ecoregional programs and should serve to expand and strengthen them.

A new Statement of Purpose

Ecoregional programs do not have a high profile, within or outside the CGIAR, and there is no clear consensus on what an ecoregional program is. Workshop participants agreed that a new definition or ‘Statement of Purpose’ was re-quired, to improve understanding of the programs’ fundamental roles and activities. This statement may be used to enhance communication of the ecoregional approach, both within and outside the CGIAR.



Ecoregional Programs: A Statement of Purpose

The purpose of ecoregional programs is to bring about lasting improvements in the lives and livelihoods of poor people. The programs are characterized by a focus on specific ecological and geopolitical regions and by a balanced emphasis on production, natural resource management and social equity. The technical and human dimensions of problems and opportunities are addressed through partnerships with farmer groups, national research organizations, NGOs, advanced research institutes, CGIAR centers, and the private sector.

Ecoregional programs support participatory technology development of a wide range of options and stimulate policy dialogue. They develop methods to promote research efficiency and to achieve broader impact through the extrapolation of results. They are vehicles for implementing the new INRM research and development approach promoted by the CGIAR.



Program Profiles: A Summary of Seven Current Ecoregional Programs

African Highlands Initiative

Historically, agricultural research in eastern and central Africa has concentrated on the highlands because of their high agricultural potential and economic importance. The African highlands constitute only about 25% of this region's land area, but are home to over 50% of its people. Problems are similar throughout the ecoregion and include decreasing soil fertility, limited availability of inorganic fertilizer, fragmentation of land holdings, decreasing numbers of trees, limited income-earning opportunities for farmers, and poor access to markets, inputs, and credit. Traditional ways of maintaining land productivity, such as fallowing, manuring, mulching, and crop rotations, have become impractical, since the necessary resources are scarce and in decline.

AHI's major focus since 1995 has been to improve INRM and agricultural productivity by solving a number of land degradation problems. These include poor soil fertility, inadequate soil and water conservation, inappropriate pest and disease management, low crop yields and poor links to markets. The program seeks to integrate different technological options designed to solve these problems. It also pays attention to improving the institutions and other social constructions around resource management, together with the relevant policies designed and implemented at local and national levels. AHI is working to change the orientation of research to include participatory approaches, methodology development, and the integration of disciplines. It seeks to involve a broader range of institutions than conventional research, to work on a range of scales—from the farm plot to the watershed—and to adopt a problem-solving focus in all its activities. The program puts considerable emphasis on the links between research, development, and policy. Benchmark sites are used as “case studies”, where the bottom-up planning and implementation of activities provides the rationale for links across sites. The overall goal of AHI is to improve the food security and income of agricultural communities by increasing and sustaining the productivity of the natural resource base.

The major achievements of AHI to date fall into two categories, social and technical. The program has built social capital by implementing participatory development and creating measurable behavioral change in the approach to R&D problems adopted by researchers, other partners and rural communities. It has also succeeded in creating teams and community groups at benchmark sites and fostering technical exchanges between scientists at both the national and the regional levels. The program's technical achievements include forming local seed enterprises, developing integrated sets of options to solve production and NRM problems, mapping local resources and ranking resource endowments so as to understand systems and resource flows, and analyzing the ecoregion as a whole using GIS information.



The program operates in eight benchmark sites in five countries (Ethiopia, Kenya, Madagascar, Tanzania, and Uganda).

Ecoregional Program for the Humid and Sub-humid Tropics of Sub-Saharan Africa

Nearly half of sub-Saharan Africa's 615 million people live below the poverty line. With a population growth rate exceeding that of regional food production, the future for Africa's poor remains grim. Environmental problems are becoming acute, with widespread depletion and degradation of natural resources. Cultivated soils are losing their natural



fertility and are subject to erosion due to over-exploitation, while tropical forests are being destroyed at an increasing rate. Nevertheless, there are opportunities to increase food production and incomes. They include using improved crop varieties, applying various technologies to reverse land degradation, improving marketing structures, and improving and stabilizing national agricultural policies. The main goal of EPHTA is to help smallholders and medium-scale farmers in sub-Saharan Africa improve

their well-being through the use of technologies to increase and sustain production and to avoid post-harvest losses, while minimizing natural resource degradation.

Three consortia are involved:

- Inland Valley Consortium (10 member countries)
- Humid Forest Consortium (6 member countries)
- Moist Savannah Consortium (9 member countries).

The Inland Valley Consortium is convened by WARDA while the Humid Forest and Moist Savanna Consortia are convened by IITA.

EPHTA has had a similar holistic, systems focus to AHI, but in its actual implementation it concentrates on participatory technology development, post-harvest systems, and scaling up. The latter includes research on policies that will encourage adoption. The initial focus was on delineating and characterizing the benchmark areas, where coordinating committees were established and resource management surveys conducted. Subsequently, new crop varieties and alternative cropping, intercropping, and rotation systems have been successfully introduced. The program also adds value by fostering strategic alliances for regional research and development and by focusing NRM research on regional priorities.

EPHTA has a relatively broad focus, covering three major ecozones: humid forests, moist savannas, and drier savannas, with inland valleys cutting across all three. The program operates in 14 countries (Benin, Burkina Faso, Cameroon, Central African Republic, Cote d'Ivoire, Democratic Republic of Congo, Gabon, Ghana, Guinea, Mali, Niger, Nigeria, Sierra Leone, and Togo). There are three benchmark sites in the humid forest areas, three in the moist savanna and three in the inland valleys.

Consortium for the Sustainable Use of Inland Valley Agro-ecosystems in Sub-Saharan Africa

The inland valleys of West Africa represent a promising, largely unexploited, and relatively robust land resource, where there is considerable scope for expanding rice production. Improved water control here could also lead to the overall intensification and diversification of agriculture. The IVC, which began operations in 1994, has been addressing technical constraints such as lack of water control, weed infestation, poor cultivar adaptation, and pest and disease infestation, in addition to socioeconomic problems such as shortage of land and labor, insecure land tenure, and the difficulties afflicting village organizations. The consortium has been involved in site characterization and participatory technology development, and plans to become more involved in technology dissemination and policy issues.



The overall goal of IVC is to bring together national and international agricultural research institutes, development organizations, and other stakeholders in order to develop suitable technologies and knowledge bases for integrated agricultural land use management and operational support systems for intensified but sustainable use of inland valleys in West Africa.

Achievements include development of a wide range of partnerships, extensive agroecological characterization, and participatory technology development and evaluation. Information has been disseminated through GIS and database information systems and also through publications and seminars for a wide range of stakeholders, from farmers to decision-makers.

IVC is relatively highly focused, covering inland valley lowlands (valley bottoms and their fringes). The program operates in 10 countries (Benin, Burkina Faso, Cameroon, Cote d'Ivoire, Ghana, Guinea, Mali, Nigeria, Sierra Leone, and Togo) in West Africa and has three benchmark sites and 18 (smaller) key sites.

Consortium for the Sustainable Development of the Andean Region

For thousands of years, the people of the Andes have carefully managed their natural resources, terracing and irrigating their fields and domesticating a wide range of plants and animals. However, increasing population pressure means that more than 60% of the rural inhabitants of the Andes still live in poverty. Soil erosion and nutrient loss, drought, flooding, deforestation, political violence and lack of access to markets are among the most common constraints to economic development.

CONDESAN started in 1992 and uses a multidisciplinary thematic approach to integrate and organize a large network of research and development projects. Topics covered include soil and water management, agrobiodiversity of Andean roots and tubers and pasture species, improved farming systems from producer to consumer, policy



research, and communications. The core ecoregional program adds value by developing and disseminating a range of communication tools. It operates a successful information platform known as InfoAndina (<http://www.condesan.org>). It also provides various modeling, GIS, and methodological inputs, which are highly valued by the numerous partners. By bringing together researchers and NGOs, government agencies and community groups, the consortium works to create lasting alliances that respect and respond to the complex social and physical environment. Research results are freely shared and the strategic partnerships themselves serve as models for other institutions throughout the Andes.

Major achievements include the development of modeling systems for crop and animal production and for various environmental services (e.g. carbon sequestration). Effective policy dialog has also been

achieved, on issues such as pesticide abuse, water legislation, and investment incentives for smallholders.

CONDESAN covers the high-altitude Andes, including three major ecological zones (humid, semi-arid and the altiplano). However, conditions vary widely within small areas due to different micro-climates, ecologies, land use systems, and cultures. The program operates in five countries (Bolivia, Colombia, Ecuador, Peru, and Venezuela) and at six benchmark sites.

Ecoregional Program for Tropical Latin America

This program has operated since 1994 as a mechanism for disseminating the products of research developed by CIAT and its partners to intermediate and end-users. The program has also been designed to receive feedback on the needs of producers and other stakeholders. It uses networking as its main method of exchanging information. The program's role is to serve as an interface between CIAT and its non-scientific audience as well as to meet the needs of all the different types of organizations in tropical Latin America that are involved in sustainable rural development. This is the starting point for the program's development of strategic alliances, new models of partnerships, improved capacities, and links with policy makers. The emphasis is on characterization for extrapolation purposes, the exchange of technology, and the development of methodology for understanding resource management.



The network has achieved significant technological advances, including introducing new crop varieties, soil conservation techniques, silvo-pastoral systems, and improved fallows. Experiments on sustainable land management and studies of nutrient release have been carried out, in addition to research on market options (e.g. adding value to primary products). The decision support tool-kit developed by network participants is a valuable information resource that can help stakeholders select appropriate technical options. Partnerships to build capacity through training have also been developed.

TLAP covers the mid- to low-elevation Andean and Central American hillsides, savannas, and forest margins (the latter are also covered by ASB). The program operates in four countries (Colombia, Honduras, Nicaragua, and Peru).

Rice-Wheat Consortium for the Indo-Gangetic Plains

The Indo-Gangetic plains, encompassing parts of Bangladesh, India, Nepal, and Pakistan, is one of the most productive agricultural areas of the world, feeding many more people than its vast resident population. At present, this numbers over 1.2 billion people, but it is increasing at a rate of 1.8% per year. Food security for this expanding population is currently threatened by a slowdown in yield growth, a lack of new farmland, and continuing resource degradation.

The overall goal of RWC is to contribute to the eradication of poverty and hunger in South Asia through the development and deployment of more efficient technologies for increasing and sustaining the productivity of rice and wheat while conserving the natural resource base. First formed in 1989, the program was formally constituted in 1993. There has been a focus on technology development and dissemination, with the concomitant aim of influencing the agenda of key stakeholders in favor of conservation agriculture. The program is based on a systems perspective (taking into account key components such as water management, integrated plant nutrient management, crop improvement, and small-scale mechanization), adopts a participatory approach, and builds capacity in national programs.

The key achievement has been to bring about a change in mind-sets, so that there is now increased participation by stakeholders, especially the farming community, in the testing and application of a range of new research approaches and tools. The conservation agriculture initiative, which includes the introduction of a basket of resource-conserving technology options such as zero-tillage, bed planting and new rice establishment systems, has been particularly successful, leading to increased production as well as to cost savings, higher profits, improved livelihoods, and environmental benefits. The latter include improved water use efficiency, a reduction in fossil fuel use, reduced application of chemicals, increased fertilizer efficiency, and reduced greenhouse gas emissions.

The program's steering committee emphasizes the sharing of information on projects, human resources and institutions in the region. To that end, a web-based information system called



PRISM has been developed (<http://www.wis.cgiar.org/rwc/sharedhome.html>). Related efforts on information systems and GIS are also pursued.

Ecoregional Program for the Humid and Sub-humid Tropics of Asia

Recent dynamic economic growth in parts of Southeast Asia raises several issues and concerns related to the ecological and economic sustainability of development. These include diversification and intensification of agriculture as well as protecting the natural resource base. The focus of ECOR-I is on the conservation and management of natural resources (soil, water, flora, and fauna) in an integrated manner as a basis for developing sustainable food production systems. The program began in 1995 as an ecoregional working group, which identified two themes for further research: soil erosion and agricultural diversification. It was decided to develop knowledge bases and case studies to build upon existing research initiatives across an upland to lowland toposequence. Methodology development has largely focused on two integrative models: rice supply and demand analysis (RSDA) and systems approach for land use planning and analysis (SysNet-LUPAS). The program has also started a projects information database system (PIDS). Partnerships and subsequent activities have formed around these and other models and databases.

The program has been successful in developing a range of options for improving land, crop, and water management, and has quantified the effects of diversification on the natural resource base and on farmers' incomes. Biodiversity-conserving crop diversification strategies have been devised for different parts of the toposequence, as well as crop, nutrient, and pest management strategies. The program has also helped identify policy options for supporting crop diversification.

ECOR-I is located in the humid and subhumid tropics and subtropics of South and Southeast Asia, and covers numerous ecologies. Activities are concentrated mainly in two pilot areas, the Red River Basin of Vietnam and the Korat Basin of Northeast Thailand. The program operates in eight countries (Bangladesh, China, India, Indonesia, Malaysia, the Philippines, Thailand, and Vietnam).



Lessons Learned

Practical experiences that have the potential to improve future activities

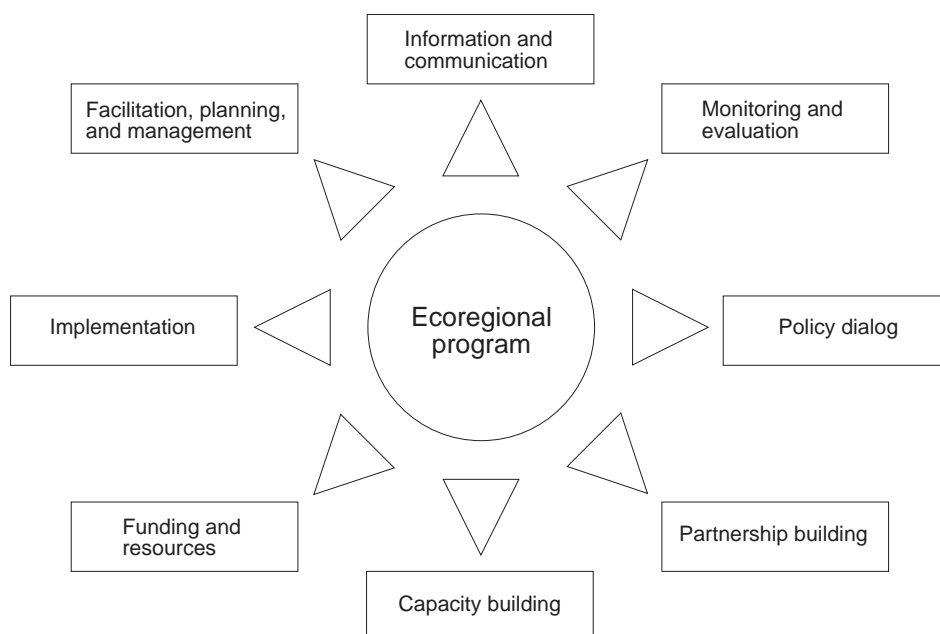
Workshop participants shared their knowledge to assess the strengths and weaknesses of current ecoregional programs and to arrive at a consensus on the key functions and elements required for success (Figure 2). The elements shown in the figure are not discrete; on the contrary, improving the efficiency of each can influence others. For example, good information and communication facilitates monitoring and evaluation and promotes effective policy dialog. Monitoring and evaluation are essential to satisfy donors that their money is being well spent and to secure further support. Without efficient planning and management, none of the other elements would function satisfactorily.

Information and communication

Ecoregional programs demand a new kind of science—one that tries to have a positive impact on people's lives, not just study the issues. This calls for innovation in thinking and greater integration of research and development, bringing together different disciplines and institutions.

The programs have developed many new methods, including those needed to understand and influence the social, political, and institutional aspects of natural resources management. However, these accomplishments are often not immediately evident to outsiders—including external evaluators—and the ecoregional programs are not putting

Figure 2: Key elements for success in ecoregional programs



enough effort into documenting them. An additional difficulty is that the results of this kind of research are not easily quantifiable. Moreover, dissemination of information is not the greatest priority for many researchers, who may lack the skills and time to document their methods and results. Appropriate training for research personnel would therefore be beneficial, with the aim of improving their skills in documentation and time management. How to set up and maintain computerized information systems should receive particular attention.

Maintaining access to up-to-date information requires a functioning physical infrastructure (i.e. an office system, telephones, and computers), which in turn needs adequate funding. Meeting donors' requests for information by accessing an efficient information system can also help to reduce administrative overheads. Information should always be purposefully targeted to the different types of clients and stakeholders, and presented in the right format.

Some programs have developed web-based information-sharing systems, for example "InfoAndina", developed by CONDESAN, and the projects information database, developed by ECOR-I. An international information system known as "WISARD" has been developed by IAC. TLAP has facilitated the dissemination of information through its "decision support tool-kit". This is presented as a series of guides designed to help stakeholders make appropriate decisions regarding natural resources management.

Facilitation, planning, and management

Ecoregional research focuses on a complex set of problems and draws in a wide range of actors in its search for solutions to major development issues. Facilitation plays a major role in maintaining progress and is necessary if the comparative advantage of each stakeholder is to be fully exploited. The availability of funds to support a facilitation or coordination unit is therefore viewed as essential to the long-term success of the programs. With sufficient funding, these units can contribute greatly to effective communication, and part of their mandate should be to promote awareness and to publicize results.

Due to the complexity of the issues and partnerships associated with ecoregional research, conventional concepts of research planning need to be modified to create a more flexible and dynamic approach that, while still being efficient, pays adequate attention to the roles and responsibilities of multiple partners and stakeholders. In particular, there is a need to work more actively with policy makers and the private sector, in addition to more conventional stakeholders.

Given the dynamic nature of research for development, management must be flexible, cost-effective and act as a catalyst, establishing and maintaining a strong communication system between partners and generating a sense of community. The ability to "walk on water" was mentioned as a useful skill for program managers! Transparent financial control is important but should be carefully managed: donors and partners need to know where money is coming from and how it is spent, but certain issues (such as facilitation costs, especially coordinators' salaries) can be contentious.

Special attention should be paid to the start-up phase of a new ecoregional program, since future success may depend on effective baseline facilitation, planning, and management. It was suggested that a separate budget should be sought for this phase; this would need to be of non-competitive grant fund origin.

WISARD

The Web-based Information System for Agricultural Research for Development (WISARD) is a dynamic open platform for sharing and managing information in the field of development cooperation. The system can improve interaction between organizations in a particular region or topic, avoid duplication of effort and build on existing knowledge, as well as identifying suitable partners for collaboration. Information is stored under "Organizations", "Projects", "Outputs" and "Experts". The databases are searchable in various ways, including geographic, thematic or organizational criteria, or by key words. Find out more at www.wis.cgiar.org/wisard.

InfoAndina

This is a web-based information system which has proved to be a highly successful communication tool, particularly the electronic forum. For example, a forum on rural agro-industries fostered the development of a project on arracacha (an Andean root crop). In another case, a forum on water issues in Bolivia led to the formation of CONDESAN's Commission for the Integrated Management of Water in Bolivia. This is now one of the principal players in the national water sector, contributing to policy debate in the Bolivian parliament.

Management approaches within the different programs differ, with some (e.g. EPHTA and IVC) being very much part of CGIAR centers (IITA and WARDA), while others (e.g. CONDESAN and TLAP) are more like independent networks, with less direct center involvement. The question of whether facilitation units need to be associated with CGIAR centers was raised. The argument for center involvement is that a large back-up organization is needed to give stability and to act as a catalyst in such long-term projects. In addition, the concept of ecoregional research was initiated by the CGIAR, so it was felt that secure funding for the continuation of the programs would be assured, if the centers continued to play a lead part. However, as the programs evolve and expand to include wider areas and additional partners, the dominant role of the CGIAR centers is likely to diminish.

Monitoring and evaluation

As ecoregional programs are promoting new ways of working, they need to be evaluated using different methods to those used for conventional agricultural research. For example, in addition to measuring technological advances, there is a need to evaluate less tangible gains, such as strengthening of institutions, empowerment of stakeholders, and changes in attitudes and behavior. Developing monitoring and evaluation systems that can capture these kinds of impact is a challenge to researchers who are used to measuring easily quantifiable results, such as crop yields per hectare or water-use efficiency.

The hypothesis on which ecoregional research is based—that if the resource base is better managed, this will help eradicate poverty—also requires testing. This is proving difficult, as long time-scales are needed and the criteria to be measured (e.g. quality of life or effectiveness of partnerships) are not always clear. It has proved difficult to set the right criteria at the beginning of the programs, and this has affected the results of interim evaluations. The practice of setting unrealistic goals in relation to resources and time-scales has also contributed to critical review reports.

Criteria for evaluation therefore have to be set carefully at the start of the program, with milestones and indicators being reviewed and revised at regular intervals. It is better for the program coordinators to set up their own review system from the inside, rather than having traditional monitoring and evaluation criteria imposed from the outside. Setting the right criteria at the start means that it is possible to measure change, and some socioeconomic or behavioral criteria should form part of the initial site characterization, in addition to the biophysical factors. It was suggested that the convening center or sub-regional organization (e.g. CORAF or ASARECA) could be asked to review progress on a yearly basis.

More efficient monitoring and evaluation is now being attempted by at least some of the programs, including setting the criteria and measuring the baseline against which future progress may be measured, and identifying more realistic indicators of progress. However, the long time-scales involved in impact assessment can be off-putting to donors and have a detrimental effect on program funding. Assistance will be sought from organizations such as ISNAR and IAC in developing new systems of monitoring and evaluation, as well as improving impact assessment skills.

Policy dialog

Achieving the goals of ecoregional programs requires improved policy making. Consortium members need to be made aware that policy dialog is important. It was agreed that all programs need to spend more time and resources on informing policy makers

AHI: Working towards policy change

Work towards policy change has just started in AHI. It is intended to begin by conducting a stakeholder analysis around several NRM issues (hillside terrace management, valley bottom water management, encroachment on livestock grazing areas) in Kabale, Uganda. A “policy task force” has been set up, with members from the local government and government agencies, and relevant NGOs. The aim will be to review a number of by-laws developed in the 1950s, using a consultative and capacity building process to analyze the effects of management and non-compliance over the last 50 years or so. Given the review of this evidence, which will be supplied by farmers and researchers working together, new or revised by-laws and action plans for implementation will be developed. The aim is to use this process to create awareness, develop better practices, foster adoption and investment, and build capacity.

RWC: Influencing policy and education



Raj Gupta, the RWC Facilitator, has held several meetings with the Indian Government Planning Commission to discuss issues concerning conservation tillage and how best to accelerate adoption. Subsidies on equipment is one possible option being explored. The issue of water charging is also being addressed. RWC has influenced State extension recommendations and university curricula, with conservation tillage now on the list of options for students.

of the issues that need to be addressed. Information needs to be presented to policy makers in an appropriate way. This is likely to improve with better information and communication systems. Additionally, there is a need to increase policy capacity at national and local levels. However, building productive relationships with relevant policy makers can be difficult in countries where there are frequent changes of government or high-level ministerial staff (e.g. India and West Africa).

Building partnerships and alliances

Strong multi-level partnerships and alliances in which participants share a common vision and feel a sense of ownership are essential for the sustainability of ecoregional programs. Partnership building is a complex process that requires effective management to ensure prospective partners are carefully assessed, mutual benefits are identified, roles and relationships are clearly defined, and a mechanism for conflict resolution is in place.

In general, ecoregional programs have been very successful in forming productive partnerships, although it has taken time to build trust and establish roles and functions.

RWC: Bringing NARS in the region together

RWC organizes visits and travelling seminars for stakeholders to build capacity and partnerships, and has found this a powerful way to improve relationships. Partners can observe what others are doing and openly discuss what is happening. Sharing results helps to increase confidence and to analyze successes and failures critically. RWC's regional scope has allowed researchers from all participating countries, including India and Pakistan, to exchange information and experiences. Technologies from China have also been identified, assessed, and adapted to local conditions in a number of countries.

The programs now need to maintain this momentum and to seek new types of partners, such as private investors and policy makers, so as to broaden their impact. Another strength of current ecoregional programs is that they have created conditions whereby NARS can collaborate with other NARS across national boundaries—even between hostile countries.

In the early stages of ecoregional programs, it can be advantageous to use existing infrastructure. Practical considerations of this kind mean that site selection may be biased in favor of areas where suitable partners are already at work. Partnership building is especially important for effective scaling up and for sustaining the adoption of new technology and approaches once the research phase is over. Partners should be actively involved in the development of new technologies, to create the motivation required to ensure their effective transfer.

Capacity building

The capacity building strategies of ecoregional programs need to address wider issues than the dissemination of knowledge and the training of personnel. When a wide range of partners are exposed to the novel concepts and approaches of ecoregional research, the potential for change is accelerated. The programs can bring about a change in institutional mind-sets, which is vital for long-term program sustainability and enhanced impact.

Projects need to establish a clear strategy for capacity building, involving high-level management and efficient information systems to promote a positive environment for change. Like effective partnership building, this element needs time and stability to become established. The strategy for capacity building, and the funding devoted to it, should

AHI: Project planning workshops

These include IARC and NARS members and donors who have a direct interest in AHI's subject matter and research methods. Having a relatively stable group of people over time has promoted interaction, leading to shared ideas. The workshops have continually reviewed the program's purpose and focus, which started out by being diffuse, with multiple perspectives and expectations. Over time, repeated workshops have united people and clarified expectations. Different dimensions have been addressed, including benchmark sites, regional issues, roles, responsibilities and relationships, the technical focus, and the development of participatory monitoring. Several of the workshops have used a professional facilitator who has personal experience in INRM and organizational change. This has helped to emphasize the need for change and how it can be brought about. As a result of the workshops, training has been organized in such subjects as participatory rural appraisal, planning and priority setting, experimentation with farmers, monitoring and evaluation, and social skills analysis for non-social scientists.



therefore make provision for building adequate facilities and teams of people. These will then become a resource in themselves for the further dissemination of technology and approaches. Use of participatory development and action research should be encouraged, as they can foster a networking approach to capacity development in which conceptual and management skills are promoted in addition to technical knowledge. This kind of approach has proved to be successful in the AHI project planning workshops.

Funding and resource mobilization

Resources for ecoregional research are critically scarce, a fact that has severely constrained implementation of the programs. In addition, the programs actually manage very little of the money that is being spent on development in a given ecoregional zone, thus reinforcing the need for effective facilitation. The funding environment continues to promote competition, since it leads to numerous, highly fragmented, small projects with few incentives to collaborate with one another. Secure, long-term funding is required but is difficult to achieve, especially for large projects with long time-scales. Short-term project funding places severe limitations on planning and priority-setting. In addition, in ecoregional research it is sometimes difficult to demonstrate progress in the short term, and this may be off-putting to donors.

Although the CGIAR was instrumental in starting ecoregional programs, future funding from this source is perceived to be uncertain, especially given the recent shift towards INRM and global challenge programs.

Innovative approaches are therefore needed to tap into new private and public sources of funds and other resources. These approaches include “basket” funding, where money from multiple donors is pooled to fund projects jointly. A collaborative approach among donors has the potential to reduce costly and time-consuming generation of proposals and reports for individual donors and projects.

NGOs and NARS could be involved much more in generating funding. The problem is that they are often perceived as not having reliable financial management systems, a perception that leads to difficulties in obtaining funding directly from donors. As partnerships become established over time, national partners should be able to play a more active role in generating and managing funds. This may help to alleviate another problem, namely that national governments frequently commit to matched funding but do not release funds promptly.

In order to improve donor funding the programs need to work more on development projects, using a thematic proposal strategy and a multiple donor approach, and to put more effort into communicating and promoting their results and impact. Greater attention to monitoring and evaluation is also important in securing future funding. However, finding the right balance between realism and optimism in setting goals is likely to remain a challenge.

The advent of competitive grant funds is changing the way funding is secured, so programs need to adapt to this. Individually funded core programs (e.g. AHI) seem to be having more trouble securing funds than the alternative approach of individually funded and managed projects (as in CONDESAN), which tend to focus more on securing private-sector involvement. Improved transparency surrounding the availability and use

of funds is also required, with careful monitoring of facilitation and coordination costs. A recommended level of 10% for facilitation was mentioned as a guideline, but the emphasis should be on retaining an appropriate balance between funds allocated to facilitation and to research.

CONDESAN: Working with investors



CONDESAN has successfully involved the business sector in research for development. For example, a soft drinks company has invested in a project to diversify crop production, introducing blackberries, raspberries, and passion fruit. The market for these new crops is secure, with added value created when they are processed. Other projects in discussion include commercial fish production, to be funded by a trout producing and exporting company, and a dairy project, to be funded by a large dairy plant.

Implementation

Extensive site characterization has formed a necessary first stage of research in many ecoregional programs. This lays the foundations for scaling up and scaling out, as well as revealing local problems and possible solutions. There has been some criticism of programs for placing too much emphasis on site characterization and it was acknowledged that ecoregional programs should concentrate more on results-oriented research, with characterization a step in the process rather than an end in itself. However, greater attention to the “human dimension” in characterization may still be required. Adequate monitoring and evaluation, impact assessment, and associated data collection should also be integral program components.

Programs need to define a clear purpose before embarking on a scaling up exercise. However, due to the complexity of issues, purposes may alter during any or all stages of research. A new approach is therefore required, in which ecoregional research is implemented as an iterative cycle rather than a linear process. This allows feedback from users and policy changes to be considered and to influence the program’s direction at any stage. Ecoregional programs need a flexible basket of options rather than a rigid protocol. SysNet, the land use model devised by partners in ECOR-I, is a good example of how to present different options.

Implementing multiple projects with multiple donors and evaluations has generated a considerable requirement for report writing. Programs need to set up a system from the start to meet this need and to synchronize their implementation cycle with their review cycle, thus reducing administrative overheads. Efficient information systems and basket funding are other ways of reducing administrative costs.

The need for adequate time to achieve demonstrable impact in this new area of research and development was stressed. For example, the RWC has taken 12 years to develop and refine its “conservation agriculture” approach, and is only now beginning to show results in terms of changing mind-sets and policy.

SysNet

This is a systems research model that develops and evaluates tools and methodologies for exploring land use options. It was established in 1996 by IRRI and four NARS partners in India, Malaysia, the Philippines, and Vietnam. Its developers are doing all they can to ensure their efforts will have a large impact by getting the tools into the hands of the people who most need them. SysNet is being used to train trainers, share software for modeling, and create instructional materials. Users are supported via e-mail access to experts. Eventually a SysNet website may be developed.

Recommendations

The exchange of information and experiences at the workshop resulted in several recommendations for the future, firstly to improve the performance of the programs and secondly to ensure support from the CGIAR and donor community.

For the ecoregional programs:

Information and communication

The programs need to put more effort into developing information-sharing systems among partners, for example computer-based systems such as InfoAndina and WISARD, and into collecting feedback from, and providing information to, farmers and development agencies. Exchange of information between programs should also be improved. This includes sharing not only useful tools and methodologies but also valuable experiences, such as the achievements in working with investors and in changing institutional mind-sets. Closer alliances should be forged with the INRM initiative and the ecoregional fund of the CGIAR. The programs also need to create better awareness and recognition of their successes.

Planning, monitoring, and evaluation

The programs need to maintain an efficient facilitation or coordination unit to provide leadership and to mobilize partners and resources. Clearer development-oriented research objectives are required, together with more attention to monitoring and evaluation, including impact assessment. Strong capacity building is required to promote program sustainability.

Policy

The programs should strengthen their interactions with policy makers and their focus on policy as a key variable in the natural resource management and poverty equations.

Partnerships

In addition to intensifying collaboration with farmer organizations and development-oriented NGOs, the programs need to expand their stakeholder base to include NGOs with a conservation mandate, municipal governments, policy makers and the private sector. Programs should continue their emphasis on research for development, linking on-farm activities with urban and agro-industrial markets. The potential users of new technology and methods must be actively involved in their development.

Funding issues

The programs need to develop new funding mechanisms, such as basket funding and competitive grants. More secure funding for the facilitation units is necessary to ensure long-term continuity and success. Greater collaboration between partners and more transparent financial management are also recommended.

For the CGIAR and donor community:

The Center Directors are asked to support the programs strongly as appropriate vehicles for implementing the new INRM approach. Continued and enhanced investment to secure the core coordination and facilitation role of ecoregional programs is requested. The need for adequate time to achieve demonstrable impact in this new area of research and development is stressed. The support of ISNAR and IAC is requested in the development of new planning, monitoring, and evaluation tools that are specifically tailored to the needs of ecoregional programs, and in facilitating the exchange of information and knowledge between programs and their partners.



Conclusions

Participants agreed that the workshop was considerably enhanced by the open, frank nature of the discussions that took place. The wide range of approaches used by different programs was of great interest to many participants, but there were also many similarities in the kinds of issues being faced. Current evaluations were not thought to reflect the programs' major achievements, but it was acknowledged that better self-evaluation and public relations from the programs themselves would help to communicate a more positive image. An apparent contradiction was observed between the flexibility and innovation required to manage these programs, and the institutional rigidity and lack of resources that dog their progress. Despite current threats and problems, a positive future for ecoregional programs was envisaged.

Sharing of information and experiences led to a clearer vision and strategy for the ecoregional programs and practical recommendations for further action were agreed. It was hoped that the momentum created by the workshop will be maintained. The follow-up needed to ensure this will require commitment from an external body or organization, such as ISNAR, as well as from the programs themselves.

The trend for the CGIAR to change terminology and approaches every few years caused some concern. It was realized that the programs need to combine resources with other approaches, rather than compete with them. A major opportunity to raise the profile of the ecoregional programs lies in linking them with the INRM and global challenge programs. Increased links with regional and sub-regional organizations will also be beneficial. It is hoped that the results and recommendations of the workshop will lead to a greater commitment to the ecoregional approach from donors and the CGIAR.

Annexes

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Acronyms

AHI	African Highlands Initiative
ASARECA	Association for Strengthening Agricultural Research in East and Central Africa
ASB	Alternatives to Slash and Burn
CGIAR	Consultative Group on International Agricultural Research
CIAT	International Center for Tropical Agriculture
CIMMYT	International Center for the Improvement of Maize and Wheat
CIP	International Potato Center
CONDESAN	Consortium for the Sustainable Development of the Andean Region
CORAF	Conference for Responsible African Agricultural Research
ECOR-I	Ecoregional Program for the Humid and Sub-humid Tropics of Asia
EPHTA	Ecoregional Program for the Humid and Sub-humid Tropics of Africa
IAC	International Agricultural Center
IARC	International Agricultural Research Center
ICRAF	International Center for Research in Agro-forestry
IITA	International Institute of Tropical Agriculture
INRM	Integrated Natural Resource Management
IRRI	International Rice Research Institute
ISNAR	International Service for National Agricultural Research
IVC	Consortium for the Sustainable use of Inland Valley Agro-ecosystems in Sub-Saharan Africa
NARS	National Agricultural Research Systems
NGO	Non-government Organization
NRM	Natural Resource Management
RWC	Rice Wheat Consortium of the Indo-Gangetic Plains
SFO	Small Farmer Organization
SLP	System-wide Livestock Program
TAC	Technical Advisory Council of the CGIAR
TLAP	Tropical Latin America Program
WARDA	West Africa Rice Development Association
WISARD	Web-based Information System for Agricultural Research for Development

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